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#8 SK
8/11/00

1642

RAW SEQUENCE LISTING DATE: 07/24/2000
PATENT APPLICATION: US/09/434,708 TIME: 16:52:46

Input Set : A:\B8017159.txt
Output Set: N:\CRF3\07242000\I434708.raw


```
 4 <110> APPLICANT: Borriello, Francescopaolo
 5       Band, Hamid
 7 <120> TITLE OF INVENTION: Characterization of a novel gene Cbl-SL
10 <130> FILE REFERENCE: B0801/7159/ERP
12 <140> CURRENT APPLICATION NUMBER: 09/434,708
13 <141> CURRENT FILING DATE: 1999-11-05
15 <150> PRIOR APPLICATION NUMBER: U.S. 60/107,470
16 <151> PRIOR FILING DATE: 1998-11-06
18 <160> NUMBER OF SEQ ID NOS: 10
20 <170> SOFTWARE: FastSEQ for Windows Version 3.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 1547
24 <212> TYPE: DNA
25 <213> ORGANISM: Homo Sapiens
27 <220> FEATURE:
28 <221> NAME/KEY: CDS
29 <222> LOCATION: (13)...(1434)
31 <400> SEQUENCE: 1
32  cgcgaggctc cc atg gct ctg gcg gtg gcc ccg tgg ggg cga cag tgg gaa     51
33                Met Ala Leu Ala Val Ala Pro Trp Gly Arg Gln Trp Glu
34                 1               5                  10
36  gag gcc cgc gcc ctg ggc cgg gca gtc agg atg ctg cag cgc cta gaa      99
37  Glu Ala Arg Ala Leu Gly Arg Ala Val Arg Met Leu Gln Arg Leu Glu
38        15                  20                  25
40  gag caa tgc gtc gac ccc cgg ctg tcc gtg agt ccc cct tcg ctg cgg     147
41  Glu Gln Cys Val Asp Pro Arg Leu Ser Val Ser Pro Pro Ser Leu Arg
42   30                  35                  40                  45
44  gac ctg ctg ccc cgc aca gcg cag ctg ctt cga gag gtg gcc cat tct     195
45  Asp Leu Leu Pro Arg Thr Ala Gln Leu Leu Arg Glu Val Ala His Ser
46                  50                  55                  60
48  cgg cgg gcg gcc ggc gga ggc ggc ccc ggg ggt ccc ggc ggc tct ggg     243
49  Arg Arg Ala Ala Gly Gly Gly Gly Pro Gly Gly Pro Gly Gly Ser Gly
50                65                  70                  75
52  gac ttt cta ctc atc tac ctg gcc aat ctg gag gcc aag agc agg cag     291
53  Asp Phe Leu Leu Ile Tyr Leu Ala Asn Leu Glu Ala Lys Ser Arg Gln
54            80                  85                  90
56  gtg gcc gcg ctg ctg cct ccc cgg ggc cga agg agt gcc aac gac gag     339
57  Val Ala Ala Leu Leu Pro Pro Arg Gly Arg Arg Ser Ala Asn Asp Glu
58        95                  100                 105
60  ctc ttc cgg gcg ggc tcc aga ctc agg cga cag ctg gcc aag ctg gcc     387
61  Leu Phe Arg Ala Gly Ser Arg Leu Arg Arg Gln Leu Ala Lys Leu Ala
62  110                 115                 120                 125
64  atc atc ttc agc cac atg cac gca gag ctg cac gca ctc ttc ccc ggg     435
65  Ile Ile Phe Ser His Met His Ala Glu Leu His Ala Leu Phe Pro Gly
66                  130                 135                 140
68  gca aag tac tgt gga cac atg tac cag ctc acc aag gcc ccc gcc cac     483
69  Ala Lys Tyr Cys Gly His Met Tyr Gln Leu Thr Lys Ala Pro Ala His
```

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PATENT APPLICATION: US/09/434,708 TIME: 16:52:46

Input Set : A:\B8017159.txt
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```
70              145                 150                 155
72  acc ttc tgg agg gaa agt tgc gga gcc cgg tgt gtg ctg ccc tgg gct      531
73  Thr Phe Trp Arg Glu Ser Cys Gly Ala Arg Cys Val Leu Pro Trp Ala
74          160                 165                 170
76  gag ttt gag tcc ctc ctg ggc acc tgc cac cct gtg gaa cca ggc tgc      579
77  Glu Phe Glu Ser Leu Leu Gly Thr Cys His Pro Val Glu Pro Gly Cys
78      175                 180                 185
80  aca gcc ctg gcc ttg cgc acc acc att gac ctc acc tgc agc ggg cac      627
81  Thr Ala Leu Ala Leu Arg Thr Thr Ile Asp Leu Thr Cys Ser Gly His
82  190                 195                 200                 205
84  gtg tcc atc ttc gag ttc gac gtc ttc acc agg ctc ttt cag cca tgg      675
85  Val Ser Ile Phe Glu Phe Asp Val Phe Thr Arg Leu Phe Gln Pro Trp
86                  210                 215                 220
88  cca aca ctc ctc aag aac tgg cag ctc ctg gca gtc aac cac cca ggc      723
89  Pro Thr Leu Leu Lys Asn Trp Gln Leu Leu Ala Val Asn His Pro Gly
90              225                 230                 235
92  tac atg gcc ttc ctc acc tat gat gag gtc caa gag cgt ctg cag gcc      771
93  Tyr Met Ala Phe Leu Thr Tyr Asp Glu Val Gln Glu Arg Leu Gln Ala
94          240                 245                 250
96  tgc agg gac aag cca ggc agt tac atc ttc cgg ccc agc tgt act cgc      819
97  Cys Arg Asp Lys Pro Gly Ser Tyr Ile Phe Arg Pro Ser Cys Thr Arg
98      255                 260                 265
100  ctg ggg cag tgg gcc atc ggc tat gtg agc tca gat ggc agc atc ctg      867
101  Leu Gly Gln Trp Ala Ile Gly Tyr Val Ser Ser Asp Gly Ser Ile Leu
102  270                 275                 280                 285
104  cag acc atc cct gcc aac aaa ccc ctg tcc cag gtg ctc ctg gag gga      915
105  Gln Thr Ile Pro Ala Asn Lys Pro Leu Ser Gln Val Leu Leu Glu Gly
106                 290                 295                 300
108  cag aag gac ggc ttc tac ctc tac cca gat gga aag acc cac aac cca      963
109  Gln Lys Asp Gly Phe Tyr Leu Tyr Pro Asp Gly Lys Thr His Asn Pro
110             305                 310                 315
112  gac ctg act gag ctc ggc cag gca gaa ccc cag cag cgc atc cac gtg     1011
113  Asp Leu Thr Glu Leu Gly Gln Ala Glu Pro Gln Gln Arg Ile His Val
114         320                 325                 330
116  tca gag gag cag ctg cag ctc tac tgg gcc atg gac tcc aca ttt gag     1059
117  Ser Glu Glu Gln Leu Gln Leu Tyr Trp Ala Met Asp Ser Thr Phe Glu
118      335                 340                 345
120  ctc tgc aag atc tgt gct gag agc aac aag gat gtg aag att gag ccg     1107
121  Leu Cys Lys Ile Cys Ala Glu Ser Asn Lys Asp Val Lys Ile Glu Pro
122  350                 355                 360                 365
124  tgc ggg cac ctg ctc tgc agc tgc tgc ctg gct gcc tgg cag cac tcg     1155
125  Cys Gly His Leu Leu Cys Ser Cys Cys Leu Ala Ala Trp Gln His Ser
126                 370                 375                 380
128  gac agc cag acc tgc ccc ttc tgc cgc tgc gag atc aag ggc tgg gag     1203
129  Asp Ser Gln Thr Cys Pro Phe Cys Arg Cys Glu Ile Lys Gly Trp Glu
130             385                 390                 395
132  gcc gtg agt atc tac cag ttc cac ggt cag gct act gct gag gac tca     1251
133  Ala Val Ser Ile Tyr Gln Phe His Gly Gln Ala Thr Ala Glu Asp Ser
134         400                 405                 410
```

RAW SEQUENCE LISTING DATE: 07/24/2000
PATENT APPLICATION: US/09/434,708 TIME: 16:52:46

Input Set : A:\B8017159.txt
Output Set: N:\CRF3\07242000\I434708.raw

```
136  ggg aac agc agt gac cag gaa ggc agg gag ttg gag ctg ggg cag gtg     1299
137  Gly Asn Ser Ser Asp Gln Glu Gly Arg Glu Leu Glu Leu Gly Gln Val
138      415                 420                 425
140  ccc ctt tcg gct cct cca ttg ccc cca cgg cca gat ctg ccc ccc agg     1347
141  Pro Leu Ser Ala Pro Pro Leu Pro Pro Arg Pro Asp Leu Pro Pro Arg
142  430                 435                 440                 445
144  aag ccc aga aat gcc cag ccg aaa gtg aga ctc cta aag ggg aac tcc     1395
145  Lys Pro Arg Asn Ala Gln Pro Lys Val Arg Leu Leu Lys Gly Asn Ser
146                  450                 455                 460
148  cct cca gct gcg ctg gga ccc cag gac cct gcc ccg gcc tgaaggccag     1444
149  Pro Pro Ala Ala Leu Gly Pro Gln Asp Pro Ala Pro Ala
150              465                 470
152  ggcacccaga tgtgctgctc aagggagccc caagggctgg aaggggttg tgaaaccgaa   1504
153  ataaactgcc aagcctggtc tgtcaaaaaa aaaaaaaaaa aaa                    1547
155 <210> SEQ ID NO: 2
156 <211> LENGTH: 474
157 <212> TYPE: PRT
158 <213> ORGANISM: Homo Sapiens
160 <400> SEQUENCE: 2
161  Met Ala Leu Ala Val Ala Pro Trp Gly Arg Gln Trp Glu Glu Ala Arg
162   1               5                  10                  15
163  Ala Leu Gly Arg Ala Val Arg Met Leu Gln Arg Leu Glu Glu Gln Cys
164              20                  25                  30
165  Val Asp Pro Arg Leu Ser Val Ser Pro Pro Ser Leu Arg Asp Leu Leu
166          35                  40                  45
167  Pro Arg Thr Ala Gln Leu Leu Arg Glu Val Ala His Ser Arg Arg Ala
168      50                  55                  60
169  Ala Gly Gly Gly Gly Pro Gly Gly Pro Gly Gly Ser Gly Asp Phe Leu
170  65                  70                  75                  80
171  Leu Ile Tyr Leu Ala Asn Leu Glu Ala Lys Ser Arg Gln Val Ala Ala
172                  85                  90                  95
173  Leu Leu Pro Pro Arg Gly Arg Arg Ser Ala Asn Asp Glu Leu Phe Arg
174              100                 105                 110
175  Ala Gly Ser Arg Leu Arg Arg Gln Leu Ala Lys Leu Ala Ile Ile Phe
176          115                 120                 125
177  Ser His Met His Ala Glu Leu His Ala Leu Phe Pro Gly Ala Lys Tyr
178      130                 135                 140
179  Cys Gly His Met Tyr Gln Leu Thr Lys Ala Pro Ala His Thr Phe Trp
180  145                 150                 155                 160
181  Arg Glu Ser Cys Gly Ala Arg Cys Val Leu Pro Trp Ala Glu Phe Glu
182                  165                 170                 175
183  Ser Leu Leu Gly Thr Cys His Pro Val Glu Pro Gly Cys Thr Ala Leu
184              180                 185                 190
185  Ala Leu Arg Thr Thr Ile Asp Leu Thr Cys Ser Gly His Val Ser Ile
186          195                 200                 205
187  Phe Glu Phe Asp Val Phe Thr Arg Leu Phe Gln Pro Trp Pro Thr Leu
188      210                 215                 220
189  Leu Lys Asn Trp Gln Leu Leu Ala Val Asn His Pro Gly Tyr Met Ala
190  225                 230                 235                 240
```

RAW SEQUENCE LISTING DATE: 07/24/2000
PATENT APPLICATION: US/09/434,708 TIME: 16:52:46

Input Set : A:\B8017159.txt
Output Set: N:\CRF3\07242000\I434708.raw

```
191  Phe Leu Thr Tyr Asp Glu Val Gln Glu Arg Leu Gln Ala Cys Arg Asp
192                  245                 250                 255
193  Lys Pro Gly Ser Tyr Ile Phe Arg Pro Ser Cys Thr Arg Leu Gly Gln
194              260                 265                 270
195  Trp Ala Ile Gly Tyr Val Ser Ser Asp Gly Ser Ile Leu Gln Thr Ile
196          275                 280                 285
197  Pro Ala Asn Lys Pro Leu Ser Gln Val Leu Leu Glu Gly Gln Lys Asp
198      290                 295                 300
199  Gly Phe Tyr Leu Tyr Pro Asp Gly Lys Thr His Asn Pro Asp Leu Thr
200  305                 310                 315                 320
201  Glu Leu Gly Gln Ala Glu Pro Gln Gln Arg Ile His Val Ser Glu Glu
202                  325                 330                 335
203  Gln Leu Gln Leu Tyr Trp Ala Met Asp Ser Thr Phe Glu Leu Cys Lys
204              340                 345                 350
205  Ile Cys Ala Glu Ser Asn Lys Asp Val Lys Ile Glu Pro Cys Gly His
206          355                 360                 365
207  Leu Leu Cys Ser Cys Cys Leu Ala Ala Trp Gln His Ser Asp Ser Gln
208      370                 375                 380
209  Thr Cys Pro Phe Cys Arg Cys Glu Ile Lys Gly Trp Glu Ala Val Ser
210  385                 390                 395                 400
211  Ile Tyr Gln Phe His Gly Gln Ala Thr Ala Glu Asp Ser Gly Asn Ser
212                  405                 410                 415
213  Ser Asp Gln Glu Gly Arg Glu Leu Glu Leu Gly Gln Val Pro Leu Ser
214              420                 425                 430
215  Ala Pro Pro Leu Pro Pro Arg Pro Asp Leu Pro Pro Arg Lys Pro Arg
216          435                 440                 445
217  Asn Ala Gln Pro Lys Val Arg Leu Leu Lys Gly Asn Ser Pro Pro Ala
218      450                 455                 460
219  Ala Leu Gly Pro Gln Asp Pro Ala Pro Ala
220  465                 470
222 <210> SEQ ID NO: 3
223 <211> LENGTH: 1422
224 <212> TYPE: DNA
225 <213> ORGANISM: Homo Sapiens
227 <400> SEQUENCE: 3
228  atggctctgg cggtggcccc gtgggggcga cagtgggaag aggcccgcgc cctgggccgg      60
229  gcagtcagga tgctgcagcg cctagaagag caatgcgtcg acccccggct gtccgtgagt     120
230  ccccttcgc tgcgggacct gctgccccgc acagcgcagc tgcttcgaga ggtggcccat     180
231  tctcggcggg cggccggcgg aggcggcccc gggggtcccg gcggctctgg ggactttcta     240
232  ctcatctacc tggccaatct ggaggccaag agcaggcagg tggccgcgct gctgcctccc     300
233  cggggccgaa ggagtgccaa cgacgagctc ttccgggcgg gctccagact caggcgacag     360
234  ctggccaagc tggccatcat cttcagccac atgcacgcag agctgcacgc actcttcccc     420
235  ggggcaaagt actgtggaca catgtaccag ctcaccaagg cccccgccca caccttctgg     480
236  agggaaagtt gcggagcccg gtgtgtgctg ccctgggctg agtttgagtc cctcctgggc     540
237  acctgccacc ctgtggaacc aggctgcaca gccctggcct tgcgcaccac cattgacctc     600
238  acctgcagcg ggcacgtgtc catcttcgag ttcgacgtct tcaccaggct ctttcagcca     660
239  tggccaacac tcctcaagaa ctggcagctc ctggcagtca accacccagg ctacatggcc     720
240  ttcctcacct atgatgaggt ccaagagcgt ctgcaggcct gcagggacaa gccaggcagt     780
241  tacatcttcc ggcccagctg tactcgcctg gggcagtggg ccatcggcta tgtgagctca     840
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RAW SEQUENCE LISTING DATE: 07/24/2000
PATENT APPLICATION: US/09/434,708 TIME: 16:52:46

Input Set : A:\B8017159.txt
Output Set: N:\CRF3\07242000\I434708.raw

```
242  gatggcagca tcctgcagac catccctgcc aacaaacccc tgtcccaggt gctcctggag     900
243  ggacagaagg acggcttcta cctctaccca gatggaaaga cccacaaccc agacctgact     960
244  gagctcggcc aggcagaacc ccagcagcgc atccacgtgt cagaggagca gctgcagctc    1020
245  tactgggcca tggactccac atttgagctc tgcaagatct gtgctgagag caacaaggat    1080
246  gtgaagattg agccgtgcgg gcacctgctc tgcagctgct gcctggctgc ctggcagcac    1140
247  tcggacagcc agacctgccc cttctgccgc tgcgagatca agggctggga ggccgtgagt    1200
248  atctaccagt tccacggtca ggctactgct gaggactcag ggaacagcag tgaccaggaa    1260
249  ggcagggagt tggagctggg gcaggtgccc ctttcggctc ctccattgcc cccacggcca    1320
250  gatctgcccc ccaggaagcc cagaaatgcc cagccgaaag tgagactcct aaaggggaac    1380
251  tcccctccag ctgcgctggg accccaggac cctgccccgg cc                       1422
253 <210> SEQ ID NO: 4
254 <211> LENGTH: 462
255 <212> TYPE: DNA
256 <213> ORGANISM: Homo Sapiens
258 <220> FEATURE:
259 <221> NAME/KEY: unsure
260 <222> LOCATION: (100)...(100)
261 <223> OTHER INFORMATION: unknown
263 <221> NAME/KEY: unsure
264 <222> LOCATION: (103)...(103)
265 <223> OTHER INFORMATION: unknown
267 <221> NAME/KEY: unsure
268 <222> LOCATION: (105)...(105)
269 <223> OTHER INFORMATION: unknown
271 <221> NAME/KEY: unsure
272 <222> LOCATION: (125)...(125)
273 <223> OTHER INFORMATION: unknown
275 <221> NAME/KEY: unsure
276 <222> LOCATION: (128)...(128)
277 <223> OTHER INFORMATION: unknown
279 <221> NAME/KEY: unsure
280 <222> LOCATION: (130)...(130)
281 <223> OTHER INFORMATION: unknown
283 <221> NAME/KEY: unsure
284 <222> LOCATION: (220)...(220)
285 <223> OTHER INFORMATION: unknown
287 <221> NAME/KEY: unsure
288 <222> LOCATION: (389)...(389)
289 <223> OTHER INFORMATION: unknown
291 <221> NAME/KEY: unsure
292 <222> LOCATION: (409)...(409)
293 <223> OTHER INFORMATION: unknown
295 <400> SEQUENCE: 4
296  tgacagacca ggcttggcag tttatttcgg tttcacaacc cccttccagc ccttggggtc      60
W--> 297  ccttgagcag cacatctggg tgccctggcc ttcagcgggn agngngtcct ggggtcccag     120
W--> 298  cgcangangn gggagttccc ctttaggagt ctcactttcg gctgggcatt tctgggcttc     180
W--> 299  ctgggggnca gatctggccg tgggggcaat ggaggagccn aaaggggcac ctgcccaggc     240
300  tccaactccc tgccttcctg gtcactgctg ttccctgagt cctcagcagt agcctgaccg      300
301  tagaactggt agatactcac ggcctcccag cccttgatct cgcagcggca gaaggggcag      360
```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY DATE: 07/24/2000
PATENT APPLICATION: US/09/434,708 TIME: 16:52:47

Input Set : A:\B8017159.txt
Output Set: N:\CRF3\07242000\I434708.raw

L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:299 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:321 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:377 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:379 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6